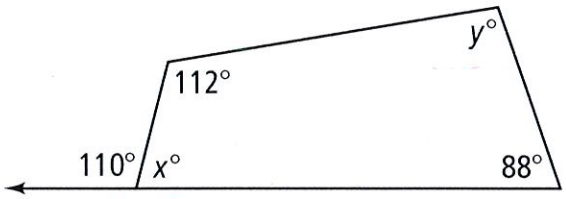
WLPCS
Geometry

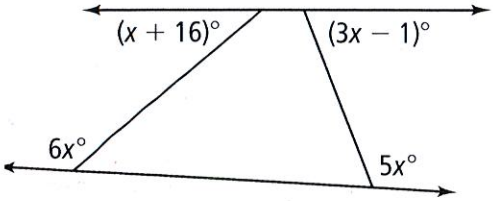
Name: _____ Date: _____ Per.: _____

Find the value of the variables.

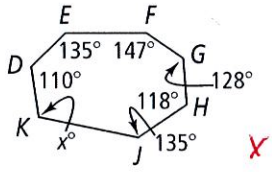


X = 70
y = 90

Find the value of the variables.

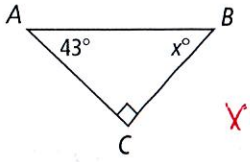


Find the value of the variable.



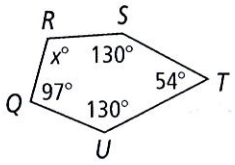
X = 127

Find the value of the variable.



X = 47

Find the value of the variable.



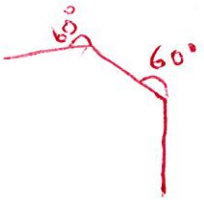
X = 129

Algebra The measure of an interior angle of a regular polygon is four times the measure of an exterior angle of the same polygon. What is the name of the polygon? Decagon

If the measure of an exterior angle of a regular polygon is 24, how many sides does the polygon have? 15

An equilateral triangle has three 60-degree angles. Explain why walking a set distance and making a 60-degree left turn three times in a row does not produce an equilateral triangle.

You need to turn 120° b/c this represents the exterior angle.

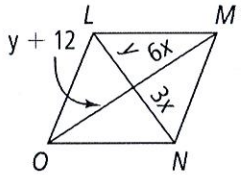


WLPCS
Geometry

Reasoning A classmate draws a parallelogram for which one side is twice as long as the other. If one side is 26 units, what are all the possible lengths of the perimeter? 78 units or 156 units

In $\square ABCD$, $m\angle A = 53$. What is $m\angle C$? $m\angle C = 53$

Given LMNO is a parallelogram, find the value of x and y and find the lengths of LN and MO.



$y = 3x$
$y + 12 = 6x$

Substitution $(3x) + 2 = 6x$

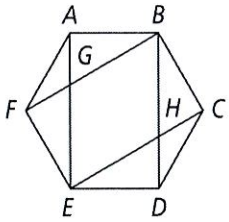
$12 = 3x$
$4 = x$
$y = 3(4)$
$y = 12$

$y + 3x = LN$
$12 + 12 = 24$

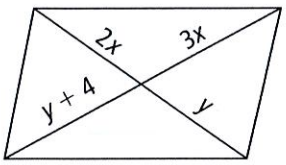
$y + 12 + 6x = MO$
$12 + 12 + 24 = 48$

In regular hexagon $ABCDEF$, diagonals $\overline{AE}$ and $\overline{BF}$ intersect at G. Diagonals $\overline{BD}$ and $\overline{CE}$ intersect at H. Prove that quadrilateral $BHEG$ is a parallelogram.

Check your answer with Ms. Rapoport...
this is TOUGH!

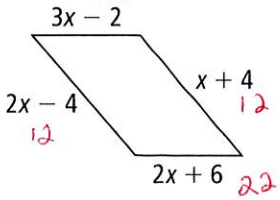


Find the values of x and y in the parallelogram below:



$x = 4$
$y = 8$

Find the value of x in the parallelogram below:

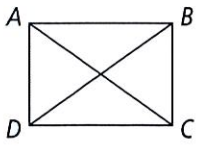


22
12
12
22

$3x - 2 = 2x + 6$
$x = 8$

Developing Proof Complete the two-column proof. Remember, a rectangle is a parallelogram with four right angles.

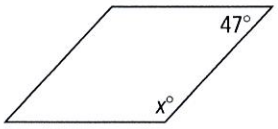
Given: $\square ABCD$, with $\overline{AC} \cong \overline{BD}$
Prove: $ABCD$ is a rectangle.



Check with Ms. Rapoport
BUT you will have to show that $\angle ADC$ and $\angle BCD$ are both congruent and supplementary and therefore 90° each!

WLPCS
Geometry

Find the value of the variable.



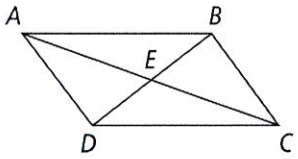
$X = 133$

Given that ABCD is a parallelogram, find the value of each segment below:

$AE = 4x, EC = 5y - 2, DE = 2x, EB = y + 14$

$4x = 5y - 2$

$2x = y + 14 \longrightarrow 2x - 14 = y$



Substitution: $4x = 5(2x - 14) - 2$

$4x = 10x - 70 - 2$

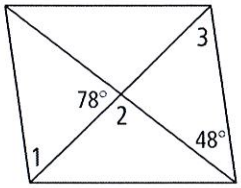
$-6x = -72$

$x = 12$

$AE = 48, EC = 48, DE = 24, EB = 24$

Plug 12 in for x to solve for y: $y = 10$

Given that the figure is a parallelogram, find the measures of angles 1, 2, and 3.

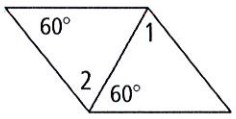


$1 = 54°$

$2 = 102°$

$3 = 54°$

Given that the figure is a parallelogram, find the measures of angles 1 and 2. How can you classify this parallelogram?

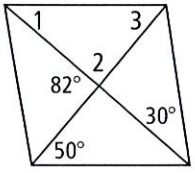


$1 = 60°$

$2 = 60°$

Rhombus!

Given that the figure is a parallelogram, find the measures of angles 1, 2, and 3.



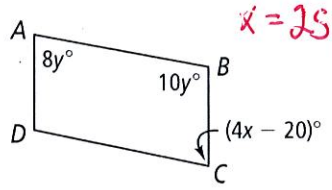
$1 = 32°$

$2 = 98°$

$3 = 50°$

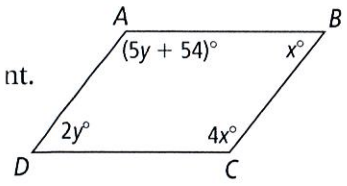
WLPCS
Geometry

Find the value of *x* and *y* in the parallelogram below:

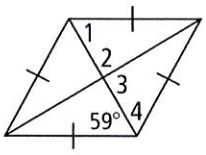


x = 25, y = 10

Find the value of *x* and *y* in the parallelogram below:

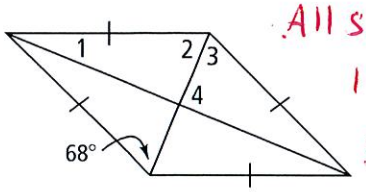


Find the measures of angles 1, 2, 3, and 4 in the rhombus below:



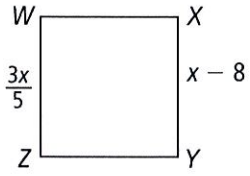
1 = 59°
2 = 90°
3 = 90°
4 = 59°

How do you know that the figure below is a rhombus? What are the measures of angles 1, 2, 3, and 4?



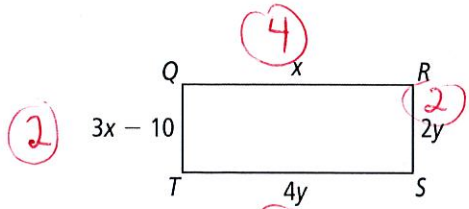
All sides are ≅.
1 = 22° 2 = 68°
3 = 68° 4 = 90°

WXYZ is a rectangle. Find the value of *x*.



x = 20

QRST is a rectangle. Find the length of each side.



x = 4y
3x − 10 = 2y
Substitute!
3(4y) − 10 = 2y
12y − 10 = 2y
−10 = −10y
1 = y
x = 4(1)
x = 4

. Why is it that the statement "all rhombuses are squares" is false, but the statement "all squares are rhombuses" is true? Explain.

All squares are rhombi b/c they have all properties of rhombi. All rhombi are not necessarily

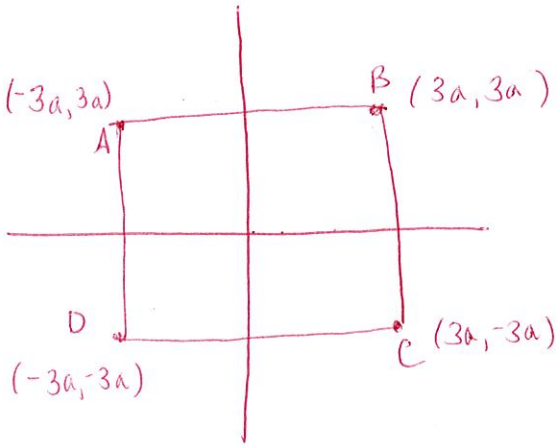
WLPCS
Geometry

Respond to each statement with "Always", "Sometimes", or "Never", then explain why.

1. Rectangles are squares S
2. Isosceles trapezoids are parallelograms. N
3. Rhombi are quadrilaterals. A
4. Rectangles are regular quadrilaterals S
5. Quadrilaterals have four congruent angles. S
6. Squares are regular quadrilaterals. A
7. Parallelograms have four congruent angles. S

Classify each quadrilateral as precisely as possible.

15. $A(-3a, 3a), B(3a, 3a), C(3a, -3a), D(-3a, -3a)$



Looks like a rectangle... is it?

$AB = 6a$
$DC = 6a$
$BC = 6a$
$AD = 6a$
> all sides = !

Slope $AD = \frac{3a - -3a}{-3a - -3a} = \frac{6a}{0}$ undefined!

Slope $DC = \frac{-3a - 3a}{-3a - -3a} = \frac{-6a}{0}$ zero

Slope $BC = \frac{3a - -3a}{3a - 3a} = \frac{6a}{0}$ undefined!

Slope $AB = \frac{3a - 3a}{-3a - 3a} = \frac{0}{-6a}$ zero

> Perpendicular sides (right angles)

SQUARE

WLPCS
Geometry

Determine whether the parallelogram is a *rhombus, rectangle, square,* or *none.* Explain.

4. $(-3, -1), (-3, 2), (1, 1), (1, -2)$
neither none

5. $(-5, 2), (-3, 4), (-3, 0), (-1, 2)$
square

6. $(-2, -1), (-3, -3), (1, -5), (2, -3)$
rectangle

7. $(-6, -3), (0, 5), (10, 5), (4, -3)$
rhombus